WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

conversion means for converting input digital image data into coefficients based on spatial frequencies to obtain conversion coefficients;

extraction means for extracting a specific area in an image represented by said digital image data based on said conversion coefficients; and

quantization means for performing quantization processing on said conversion coefficients while changing a quantization characteristic in accordance with the specific area extracted by said extraction means.

2. The image processing apparatus according to claim 1, wherein said conversion means performs wavelet conversion on the input digital image data.

3. The image processing apparatus according to claim 2, wherein said extraction means extracts said specific area by using a lowest frequency component of the conversion coefficients obtained by said wavelet conversion.

4. The image processing apparatus according to claim 2, wherein said quantization means sets a quantization

width for high frequency components as quantization
coefficients for various frequency components obtained
by said wavelet conversion, to be wider than that for
low frequency components, in said specific area and
5   other areas than said specific area.

5.   The image processing apparatus according to claim
2, wherein said quantization means uses a shortest
quantization width for a lowest frequency component
10   obtained by said wavelet conversion, whether a processed
area is said specific area or not.

6.   The image processing apparatus according to claim
1, wherein said extraction means extracts said specific
15   area having pixels in which color difference component
values have values in a predetermined range.

7.   The image processing apparatus according to claim
6, wherein the color difference component values
20   supplied to said extraction means are thinned in
accordance with a predetermined reduction rate.

8.   The image processing apparatus according to claim
1, wherein said extraction means performs matching
25   between a binary pattern representing positions of
pixels having color component values within a

predetermined range in said input digital image data,

and a binary pattern representing a predetermined shape,

and extracts said specific area based on the result of

said matching.

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9.   The image processing apparatus according to claim

8, wherein said predetermined shape is an elliptic

shape, and wherein said specific area is an elliptic

area.

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10.   The image processing apparatus according to claim

8, wherein said extraction means extracts said specific

area from a position near the central portion of an

image represented by said digital image data, prior to

15   other portions.

11.   The image processing apparatus according to claim

1, wherein said quantization means applies small

quantization coefficients to the conversion coefficients

20   within said specific area, while applies large

quantization coefficients to the conversion coefficients

out of said specific area.

12.   The image processing apparatus according to claim

25   1, further comprising:

        coding means for coding an output from said

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quantization means; and

output means for synthesizing code data obtained
by said coding means with information indicating said
specific area obtained by said extraction means, and
5   outputting synthesized information.

13.   The image processing apparatus according to claim
12, wherein the information indicating said specific
area comprises a parameter representing a modeled area.
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14.   An image processing apparatus comprising:
input means for inputting information indicating a
specific area and quantized data; and

inverse quantization means for performing inverse
15   quantization processing on the quantized data inputted
by said input means while changing an inverse-
quantization processing characteristic based on the
information indicating said specific area.

20   15.   An image processing method comprising:
a conversion step of converting input digital
image data into coefficients based on spatial
frequencies to obtain conversion coefficients;

an extraction step of extracting a specific area
25   in an image represented by said digital image data based
on said conversion coefficients; and

a quantization step of performing quantization processing on said conversion coefficients while changing a quantization characteristic in accordance with the specific area extracted at said extraction

5   step.

16.   The image processing method according to claim 15, wherein at said conversion step, wavelet conversion is performed on the input digital image data.

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17.   The image processing method according to claim 16, wherein at said extraction step, said specific area is extracted by using a lowest frequency component obtained by said wavelet conversion.

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18.   The image processing method according to claim 16, wherein at said quantization step, a quantization width for high frequency components as quantization coefficients for various frequency components obtained

20   by said wavelet conversion is set to be wider than that for low frequency components, in said specific area and other areas than said specific area.

19.   The image processing method according to claim 16,

.25   wherein at said quantization step, a smallest quantization width is used for a lowest frequency

component obtained by said wavelet conversion, whether a processed area is said specific area or not.

20.   The image processing method according to claim 15, wherein at said extraction step, said specific area, having pixels in which color difference component values have values in a predetermined range, is extracted.

21.   The image processing method according to claim 20, wherein the color difference component values supplied to said extraction step are thinned in accordance with a predetermined reduction rate.

22.   The image processing method according to claim 15, wherein at said extraction step, matching is performed between a binary pattern representing positions of pixels having color component values within a predetermined rate in said input digital image data, and a binary pattern representing a predetermined shape, and said specific area is extracted based on the result of said matching.

23.   The image processing method according to claim 22, wherein said predetermined shape is an elliptic shape, and wherein said specific area is an elliptic area.

24.   The image processing method according to claim 22, wherein at said extraction step, said specific area is extracted from a position near the central portion of an image represented by said digital image data, prior to

5   other portions.

25.   The image processing method according to claim 15, wherein at said quantization step, small quantization coefficients are applied to the conversion coefficients

10   within said specific area, while large quantization coefficients are applied to the conversion coefficients out of said specific area.

26.   The image processing method according to claim 15,

15   further comprising:

        a coding step of coding an output from said quantization means; and

        an output step of synthesizing code data obtained at said coding step with information indicating said

20   specific area obtained at said extraction step, and outputting synthesized information.

27.   The image processing method according to claim 15, wherein the information indicating said specific area

25   comprises a parameter representing a modeled area.

28. An image processing method comprising:

an input step of inputting information indicating a specific area and quantized data; and

an inverse quantization step of performing inverse quantization processing on the quantized data inputted at said input step while changing an inverse-quantization processing characteristic based on the information indicating said specific area.

29. A storage medium containing a control program for causing a computer to compression-encode digital image data, said control program comprising:

code of conversion process for converting input digital image data into coefficients based on spatial frequencies to obtain conversion coefficients;

code of extraction process for extracting a specific area in an image represented by said digital image data based on said conversion coefficients; and

code of quantization process for performing quantization processing on said conversion coefficients while changing a quantization characteristic in accordance with the specific area extracted by said extraction means.

30. A storage medium containing a control program for causing a computer to decode and reproduce digital image

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data from compression-coded data, said control program comprising:

code of input process for inputting information indicating a specific area and quantized data; and

5   code of inverse quantization process for performing inverse quantization processing on the quantized data inputted by said input means while changing an inverse-quantization processing characteristic based on the information indicating said

10   specific area.